
CONSTRUCTION & PROFESSIONAL SERVICES MANUAL – 2004

CHAPTER 10: CONSTRUCTION PROCUREMENT & ADMINISTRATION

SECTION 1000.0 GENERAL

Section 2.2-4301, Code of Virginia defines "Construction" as meaning building, altering, repairing, improving or demolishing any structure, building or highway, and any draining, dredging, excavation, grading or similar work upon real property.

§ 2.2-1132, Code of Virginia, provides that the Division of Engineering and Buildings shall provide assistance in the administration of capital outlay construction projects set forth in the appropriation act, other than highway construction undertaken by the Department of Transportation and the acquisition or improvement of specialized cargo-handling equipment and related port infrastructure by the Virginia Port Authority.

Further, the Division of Engineering and Buildings may establish standards, as needed, for construction by the Commonwealth and may, with the advice of the Attorney General, establish standard contract provisions and procedures for the procurement and administration of construction and for the procurement and administration of architectural and engineering services relating to construction, which shall be used by all departments, agencies and institutions of the Commonwealth.

For purposes of § 2.2-1132, "construction" shall include new construction, reconstruction, renovation, restoration, major repair, demolition and all similar work upon buildings and ancillary facilities owned or to be acquired by the Commonwealth with the exceptions stated above.

Construction: As used in this **Manual**, includes new construction, reconstruction, renovation, restoration, major repair, demolition and all similar work upon buildings and ancillary facilities owned or to be acquired by the Commonwealth, including any draining, dredging, excavation, grading or similar work upon real property.

SECTION 1001.0 GENERAL REQUIREMENTS FOR PROCUREMENT OF CONSTRUCTION

1001.1 Capital Outlay Construction Projects:

All construction shall be procured by competitive sealed bidding in accordance with Title 2.2, Chapter 43 of the *Code of Virginia* (Virginia Public Procurement Act) and the procedures described in this chapter. (§ 2.2-4301 and 2.2-4303, *Code of Virginia*)

The Invitation For Bids for capital outlay construction projects shall include the General Conditions of the Construction Contract, G.S. Form E&B CO-7; the Instructions to Bidders, G.S. Form E&B CO-7a; the Notice of Invitation to Bid; a Bid Form; and other documents described in Chapter 8. The Agency may, with DEB approval, include a Supplemental General Condition to waive the requirements of Section 12 (b) of the General Conditions of the Contract, E&B CO-7 as it relates to the requirement for all Risk Builders insurance for renovation and repair projects where the building will remain occupied during the Work and the building remains insured **if** the Agency has, for each project, verified with the Division of Risk Management that its insurance will provide adequate coverage. Use the wording shown in the Form DGS-30-376.

1001.2 Non-Capital Outlay Construction & Maintenance Reserve-Funded Projects: Non-capital outlay construction, or repair or replacement in kind, or remodeling or renovation and Maintenance Reserve projects which are not classified as 'capital' projects but which cost \$100,000 or more shall follow the same bidding procurement procedures as described for capital

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projects. Projects shall be posted / advertised and competitively sealed bid as described in this chapter.

1001.3 Small Non-Capital Outlay Construction Projects: Non-capital outlay construction, or repair or replacement in kind, or remodeling or renovation Work which is valued at less than \$100,000 may be procured using the standard CPSM Competitive Sealed Bid procedures or by using the Small Project Procurement Procedures described in Section 1002. below

1001.4 Special Construction Procedures: Competitive negotiations may be used by an Agency on (1) projects using a fixed price design-build or construction management contract conforming to the procedures in Chapter 11 of the **Manual** (§ 2.2-4306, *Code of Virginia*) or (2) projects for the alteration, repair, renovation or demolition of buildings when the Contract is not expected to cost more than \$500,000 and upon a determination in writing made in advance that competitive sealed bidding is either not practicable or not fiscally advantageous to the public (§ 2.2-4303.D, *Code of Virginia*). Competitive Negotiation procedures are described in Chapter 11 of this Manual.

1001.5 Virginia Construction Contracting Officer: Agencies having a Virginia Construction Contracting Officer (VCCO) shall use the services of the VCCO in bidding and awarding capital outlay construction contracts as described in Sections 1003, 1004, 1005, 1006, 1007, and 1008. Procedures stipulated in this **Manual** for advertisement, Invitation to Bid, Receipt of Bids, Opening of Bids and Award of Contracts shall be used. Not later than June 30, 2002, each Agency which procures construction, including renovation, work will be required to have at least one person who has been awarded the certification of VCCO to be in responsible charge of the construction and professional service procurements for that agency. After June 30, 2002, any agency which does not have a VCCO will be required to have each construction or professional service procurement reviewed and approved by DEB/BCOM.

1001.6 Authorization to Advertise for Bids: Authorization to advertise for bids is given on completion of technical review(s) of the project documents by the BCOM or the Agency Review Unit (for those so delegated) and approval of the Project CO-6 for Capital Projects. For Non-capital projects it is recommended that the documents be reviewed by BCOM before advertising for bid. Failure to do so puts the agency “At Risk” for change orders if bids are based on documents which do not conform to the requirements of the USBC or Chapter 7 of the Manual. Call BCOM at (804) 225-3769 to establish or change a date for receipt of bids.

1001.7 Work Performed by Other Than Public Contract: Unless waived by the action wording on the approved CO-2, Agencies authorized to perform construction using Agency work force personnel shall submit their plans and specifications bearing the seal of the responsible architect and/or engineer for State Building Official review, approval, and Building Permit prior to beginning work. The format and instructions for submittals are outlined in Chapter 8 of this **Manual**.

The wording to “proceed” waives the requirement to make submittals of the forms CO-4, CO-5 and CO-6 and of the design phase documents for Capital Outlay procedure review. **However**, this does not relieve the Agency (or their A/E or Contractor) from compliance with all applicable

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building codes and standards **nor** does it relieve the Agency from submitting the plans/sketches and the specifications/work description as necessary to obtain a Building Permit for the Work.

SECTION 1002.0 PROCEDURES FOR SMALL CONSTRUCTION PROJECTS

1002.1 Small Non-Capital Outlay, and Maintenance Reserve-Funded Construction Projects:

Construction shall be procured by competitive sealed bidding in accordance with Title 2.2, Chapter 43 of the *Code of Virginia* (Virginia Public Procurement Act) and the procedures of this chapter. (§ 2.2-4301 and 2.2-4303, *Code of Virginia*)

Building Permits are required for construction projects as delineated in the Building Official's "Building Permit Policy for Construction – State Owned Buildings & Structures" including all revisions thereto. See Appendix P.

The following procedures may be used for the procurement of small construction projects

1002.2 Non-Capital Outlay Minor Construction costing more than \$50,000 but less than \$100,000:

- Develop Scope of Work including plans & specifications (Bid documents)
- Use CO-7 or CO-7 SP General Conditions
- Post Notice of IFB in Public Place and the electronic VBO
- Receive Sealed Bids
- Open Bids next day
- Post Notice
- Bonds are not required but may be specified

1002.3 Non-Capital Outlay Minor Construction costing more than \$5,000 but less than \$50,000:

- Develop Scope of Work including plans & specifications (Bid documents)
- Use CO-7 or CO-7 SP General Conditions
- Post Notice of IFB in Public Place and the electronic VBO
- Solicit Bids from at least 8 licensed Small Business, 4 of which shall be Women Owned Business and/or Minority Owned Business
- Receive Faxed or emailed Bids by specified deadline
- Open / announce Bids same day at specified time
- Post Notice

1002.4 Non-Capital Outlay Minor Construction costing less than \$5,000:

- Develop Scope of Work (Bid documents)
- Use CO-7 SP General Conditions
- Solicit Bids from at least 4 licensed Small Business, 2 of which shall be Women Owned Business and/or Minority Owned Business
- Receive Faxed or emailed Bids by specified deadline
- Open / announce Bids same day at specified time
- Post Notice

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1002.5 Non-Capital Outlay Minor Construction Unit Priced Term Contracts:

- Develop Scope of Work including plans & specifications (Bid documents)
- Use CO-7 or CO-7 SP General Conditions
- Post Notice of IFB in Public Place and the electronic VBO
- Receive Sealed Bids
- Open Bids next day
- Post Notice

1002.6 Non-Capital Outlay Minor Construction:

Non-capital outlay minor repair or replacement in kind, or minor remodeling or renovation which does not meet the criteria for a capital project or a significant non-capital project, which does not have plans, and which does not modify the Use Group Classification, existing Exits or other Fire Safety Elements, may be procured in the same manner as non-professional services in accordance with Chapter 7 of the *Agency Procurement and Surplus Property Manual* and the *Code of Virginia*, Title 11, Chapter 7.

SECTION 1003.0 BID PERIOD ACTIVITIES

1003.1 General: Preparations for bidding including the preparation of Bid Documents, the Invitation for Bids, the Instructions to Bidders (Form CO-7a), the Bid Form, and Advertising are described in Chapter 8. Prequalification procedures are described in Chapter 11 of the **Manual**.

1003.2 Prebid Conference: If a Prebid Conference or project showing is held (whether optional or mandatory), representatives of the Agency and the A/E shall attend. The Agency shall make the Project location or building available to the attendees / prospective bidders for their observation or inspection.

The A/E shall conduct such conference or showing. The agenda for the Prebid Conference shall include the following:

1. Introductions of A/E and Agency representatives
2. Synopsis of the Work by citing or reading portions of
 - Notice of Invitation for Bids
 - Instructions to Bidder
 - Prebid Question Form
 - Bid Form
 - Supplemental General Conditions
 - Special Conditions
 - General Requirements
 - Other conditions or requirements included in the Bid Documents that should be called to the attention of the bidders

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3. Questions from the floor - A/E should answer only those questions **where the response is to direct the questioner's attention to a particular portion of the bid documents.** ALL OTHER QUESTIONS SHOULD BE RECEIVED IN WRITING OR DOCUMENTED BY THE A/E AND RESPONDED TO IN WRITING IN AN ADDENDUM.
4. The A/E should issue an Addendum to include a copy of the attendees sign-in sheet and the questions posed with the response to each.

The Agency and the A/E must be careful not to provide any information, instruction, or clarification to Prebid attendees which is not made available to all potential bidders.

1003.3 Addenda to the Bid Documents: Addenda shall be issued as necessary to clarify or correct information in the Bid Documents, to respond to questions raised by the Bidders, and/or to modify the Bid Receipt Date.

No oral explanation in regard to the meaning of the drawings and specifications shall be made and no oral instructions shall be given to the Bidders prior to the receipt of bids.

Addenda shall show the Agency Name, the Project Title, the 8-digit Project Code, and the specific items to be modified. Addenda shall be written in a clear and concise manner. Each item shall identify the location in the documents of the item to be changed (e.g. plan sheet number and view or specification section and paragraph number) and describe the change to be made (e.g. change dimension in Section from x'-xx" to y'-yy" or delete wording in Section 09999, paragraph 3 (b) as written and replace with the following words ".....")

Addenda to clarify or correct information in the Bid Documents should be issued at least 10 days prior to the Bid Receipt Date. Addenda which add work to the project, which provide significant information which must be considered by subcontractors and suppliers, or which contain many pages of corrections must be issued at least 10 days prior to the date set for receipt of bids or the bid date must be delayed to allow the 10 days. Addenda which serve primarily to provide clarifications or corrections which can be covered in a one page Addendum may be issued up to 6 days prior to bid date. Addenda which only delay or cancel the date for receipt of bids must be issued at least 24 hours prior to the date and time set for bid receipt.

One copy of all Addenda shall be submitted to BCOM at the same time and by the same means as the Addenda are issued to the Bidders. A copy of all addenda shall also be sent to the Regional Fire Marshal's Office which will have jurisdiction over the project.

1003.4 Receipt of Bids: The Receipt of Bids is a very important activity and agencies must follow the rules, procedures and process established for receiving bids. The person receiving the bids shall be thoroughly trained and knowledgeable of the proper procedure for receiving and documenting bids. This person will usually be the Agency VCCO or a person acting under the supervision of the Agency VCCO. The person must be focused on the receiving the bids and documenting the receipt. Failure to follow the procedures may result in bid protests, voiding the bid receipt and possible legal action.

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Bids shall be received at the exact place listed for receipt of bids and until the deadline indicated in the Invitation For Bids (IFB) unless such time or place is modified by a properly issued Addendum. In case of conflict between the IFB and the newspaper advertisements or VBO/eVA postings, the IFB shall govern.

When bids are received, the bid envelope shall be date stamped and the time of receipt noted on the envelope. **The statutes and this Manual require strict compliance with the bid receipt deadline time.** The Agency Designee shall be responsible for deciding when the deadline time has arrived. If a bidder wishes to change the amount of his bid, such change must be received before the time set for receipt of bids. No bid or modification shall be accepted after that time has passed. The Agency Designee shall prepare a record of the bids received including the date and time for each.

Do not accept any bid which arrives or is attempted to be submitted after the deadline for receiving bids.

Bids, including any modifications thereto, shall be kept in a designated locked security container and retained there until immediately prior to the bid opening time when the bids shall be delivered to the Agency's Bid Opening Designee. (See Appendix F for further information and a Checklist for Receiving and Opening Bids.)

SECTION 1004 OPENING AND EVALUATION OF BIDS

1004.1 Bid Opening Procedures: Each organizational unit should have a person, such as the Agency's Virginia Construction Contracting Officer (VCCO), and an alternate who have been trained and are proficient in bid opening procedures to act as the Agency Bid Opening Officer. A separate person should be designated to record the bid data.

Once having established that the bid opening hour has arrived, a statement should be made as to the number of bids received. It is prudent to inquire whether any bidder has any question about the pending opening. After receiving either a negative reply or after answering questions, bids shall be publicly opened in alphabetical order by the Bid Opening Officer and, with the help of the A/E, shall be reviewed for completeness. **Do not open work papers!**

See Appendix F for a checklist for receiving and opening bids and follow the checklist and process closely.

Prior to revealing any of the information in the bid, the Bid Opening Officer must verify that the bid bond or certified check in the amount of 5 percent is attached where required, that the Bid Form is signed by the bidder, and the bidder information complies with Item 4(b) and (c) of the Instructions to Bidders. If the bid bond or certified check is not included (for bids of \$100,000 or more) or if the bid is not signed, the bid shall not be read or considered.

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After checking for the information above, state the following items and record on the bid tabulation form:

- a. Bidder/Contractor's Name
- b. Virginia Registration No.
- c. Work papers were _____ or were not _____ submitted.
- d. Receipt of Addenda I through _____ are acknowledged.
- e. Bid Bond or Certified Check is _____ or is not _____ included.
- f. Bid Form is signed.

Then...

- g. Read Bid Information
 - Any Bid Modification properly received,
 - The Total Base Bid Amount, and
 - Any Additive Bid Item Amounts in order.
 - Any qualification to the requested information on the Bid Form shall be noted as the bid is read. (Such qualification may be cause for rejecting the bid during bid evaluation.)

1004.2 Bid Tabulation and Records: After the Bid Opening is complete, the Bid Opening Officer shall:

- a. Keep all bids, work papers, etc. until 2-hours after bid opening for Contractor to state he made a mistake. Do not open work papers unless the low bidder claims an error, and then open only the work papers of that bidder.
- b. After two hours, return all Bid Bonds, checks, etc., to all but 3 lowest bidders. Work papers shall be returned to all.
- c. Keep bid bonds or checks from the three apparent lowest bidders in a secure place until Contract is signed.
- d. Contact Department of Professional and Occupational Regulation, Contractor's Section, and verify Contractor Class and Registration Number of the three low bidders .
- e. Prepare an official tabulation of the bids.
- f. Evaluate the bids.

All envelopes, papers and data submitted with the bid shall be stapled together and permanently retained, except for work papers and for bid securities. Work papers shall be returned to the bidder unopened after the two hour period for claiming an error in bid has expired, unless needed to adjudicate an error in bid claim. Bid securities shall be returned to the bidders except that bid

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securities shall be retained for the three low bidders until a signed contract is obtained. Once the Contract is signed, retained bid securities shall be returned to the three bidders. Until that time, bid securities shall be retained in a secure place.

1004.3 Evaluation of Bids: Review the bids including any additive bid items versus the funds available. Evaluate the bids of the 3 apparent low bidders to determine if bids are responsive:

- any qualification or condition shown by the bidder as a basis of his bid. Any unsolicited qualifications or conditions noted on a competitive sealed bid may be cause for disqualification or rejection of the bid.
- any informality or irregularity on the bid form.
- The Agency may waive an informality if it does not affect price, quality, quantity, or delivery schedule of the Work being procured; however, waiving an informality is at the option of the agency, not a requirement. The Agency, however, must be consistent in waiving and informality.

Determine if the low bidder (as a minimum) is responsible:

- Contractor is properly licensed as a Contractor to do business in Virginia
- Contractor is able to get bonded for the project
- Contractor has necessary facilities, organization, and resources to fulfill the requirements of the Contract Documents
- Contractor has a satisfactory record of performance on other projects
- Contractor has a satisfactory record of moral and business integrity to assure good faith performance of the Work
- Contractor has necessary experience, technically skilled personnel and supervisory personnel to perform the Work
- Contractor is not debarred

Note: If sufficient grounds are apparently found to declare a Bidder / Contractor “Not Responsible”, the Agency shall contact their legal counsel to review the information and findings before proceeding with the “Not Responsible” declaration.

1004.4 Notice of Intent to Award: Once the bid evaluation is complete, the successful low bidder has been determined, and the Agency has approval to award a contract, the Agency shall “Post” a Notice of Intent To Award, CO-9.1, (DGS-30-068) for a minimum of 10 days prior to award of the Contract. A copy of the Bid Tabulation annotated to indicate the bidder to which the award is intended to be made and the intended amount of the award may satisfy this requirement. The Notice shall be posted at the place the agency uses for “posting” notices. In addition the agency may also post such notices on their Electronic Website and/or the DGS central electronic procurement Website.

SECTION 1005 PROVISIONS FOR NEGOTIATION WITH A LOW BIDDER

When the bid exceeds the approved construction budget and the conditions and right to negotiate were included in the Bid Documents (§ 2.2-4318, *Code of Virginia*), state agencies may request authority to negotiate with the lowest responsive and responsible bidder as outlined below.

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In general, bids which are less than 10 percent over budget (up to \$500,000) can reasonably be negotiated. If the bids are more than 10 percent over budget (or more than \$500,000), the changes required would be significant and involve design and/or scope changes. Therefore, the Project should be re-bid after these changes are made. (See Section 810.0 for bid/budget management techniques.)

The Director of the Bureau of Capital Outlay Management may grant the Agency the authority to negotiate with the apparent low bidder after review of the Bid Tabulation, the specifics of the request and the justification submitted by the Agency.

The Agency's request for authority to negotiate may be made telephonically to the BCOM Director at (804) 786-6292 and shall include the following information followed within 24 hours by the written documentation:

- a. Pre-bid estimate of construction cost from the approved CO-6 or other documentation
- b. Tabulation of bids and bidders
- c. Name of recommended Agency negotiator
- d. Name of Architect/Engineer Firm's advisor(s)
- e. A list of the items or work that the Agency proposes to consider in the negotiation. (VE recommendations previously rejected shall be considered.)

The Director of the Bureau of Capital Outlay Management will approve or disapprove the request normally within 24 hours after receipt of the written documentation. The Director may give verbal approval followed by written authorization to begin negotiations.

Negotiation shall be limited to the Work included in the Total Base Bid on the bid form only. **Additive bid items, if any, cannot be considered in the negotiations nor can they be incorporated in the final negotiated contract.**

The A/E, as part of his Basic Services, shall advise the Owner as to the functional, operational, safety and code aspects of all proposed changes in the Work. The A/E shall also advise the Owner of the appropriateness of the dollar value of each change. Once the negotiations are complete, the A/E shall assist the Agency in preparing the documentation of the negotiations and prepare any sketches, details or other modifications to the plans and specification to clarify the Work to be performed by the Contractor.

Documentation of the negotiations shall clearly identify the Work changed or deleted and the value of each change or deleted item of Work. The Work changed or deleted is subject to approval of the DEB Director since this represents a change from the documents previously approved. The Agency shall complete a G.S. Form E&B CO-9b, Post Bid Modification, which shall become part of the contract.

SECTION 1006 AUTHORITY TO AWARD A CAPITAL OUTLAY PROJECT CONTRACT

When the apparent low responsive and responsible bidder is determined for a Capital Project, the Agency shall prepare a tabulation of bids and a G.S. Form E&B CO-8, Approval to Award Contract (DGS-30-

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056). The Director of the Division of Engineering and Buildings or an Agency Designee who is a Virginia Construction Contracting Officer (VCCO) shall have authority to approve the award of a contract to the lowest responsive and responsible bidder for capital outlay projects when the low bid is equal to or less than the “Construction” line amount on the approved Form CO-6.

When the lowest responsive and responsible bid exceeds the “Construction” line amount on the approved Form CO-6, the Agency may reject all bids, modify the documents and rebid, or it may

- submit a request to the Director, Division of Engineering and Buildings, to negotiate with the low bidder; or
- reallocate funds within the budget on the approved Form CO-6; or
- submit a Revised CO-2 to infuse funds into the project.

If the Agency chooses to pursue award of a contract in any of the three instances described above, the VCCO must submit the Form CO-8 along with a request for approval and justification from the applicable Agency Vice President or Chief Facilities Officer to the Director, Bureau of Capital Outlay Management for processing and approval in conformance with current approval policies.

When the apparent low responsive and responsible bidder is determined for a Non-Capital Project, the Agency shall determine if funds are available to award a contract.

SECTION 1007 PROTEST OF AWARD OR DECISION TO AWARD

Any bidder who desires to protest the award or decision to award a Contract shall submit such protest in writing to the Agency, no later than ten days after the award or the announcement posting of the decision to award, whichever occurs first. No protest shall lie (i.e. be sustained or have a basis) for a claim in which the selected bidder or offerer is not a responsible bidder. The written protest shall include the basis for the protest and the relief sought. The Agency shall issue a decision in writing within ten days of the receipt of the protest stating the reasons for the action taken. This decision shall be final unless the bidder or offerer appeals within ten days of the written decision by instituting legal action as provided for in § 2.2-4364, *Code of Virginia*. (§ 2.2-4360, *Code of Virginia*).

Stay of award during protest (§ 2.2-4362, *Code of Virginia*). An award need not be delayed for the period allowed a bidder or offerer to protest, but in the event of a timely protest, no further action to award the Contract will be taken unless there is a written determination by the Agency Head that proceeding without delay is necessary to protect the public interest or unless the bid or offer would expire.

SECTION 1008 AWARD OF THE CONSTRUCTION CONTRACT

After receipt of authorization from DEB or the Agency VCCO, the Agency may enter into a written contract with the Contractor using the G.S. Form E&B CO-9. One copy of this form and the CO-9b, if used, shall be filed with the BCOM Director. A copy of the Notice of Award, G.S. Form E&B CO-9.1a, shall be **publicly posted** concurrent with the Notice to the Contractor that his bid has been accepted.

When the apparent low responsive and responsible bidder is determined for a Non-Capital Project, the Agency shall ‘post notice’ of the intent to award the contract.

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SECTION 1009 REFUND OF DEPOSITS FOR DRAWINGS AND SPECIFICATIONS

The A/E's Basic "Bid Phase" Service includes having the bid documents printed, issuing bid documents to bidders, receiving and holding deposits on the bid documents, maintaining the listing of bid document holders, receiving and inspecting the bid documents returned after bidding, and returning deposit checks/ issuing refunds when the documents are returned in a condition usable for construction. Agencies may choose to perform these functions "in-house" or contract to have this function performed by a Project Manager. If not required of the A/E, the A/E Contract shall be modified, either in the description of services in the initial MOU or by a Change Order, to reflect the deletion of this basic service.

All checks used as a deposit for the purpose of securing plans and specifications shall be made payable to the A/E (or entity tasked with distribution of the Bid Documents). If the documents are returned in good condition, within 10 days after bid opening, checks will be returned or a refund issued to the Contractor. In case any of the deposits are forfeited, either in part or in their entirety, the A/E shall make an accounting to the Agency showing the number of sets of blueprints provided, the number of sets returned, and also the amount of money forfeited for payments of plans and specifications by the Contractors. Any forfeiture, as mentioned above, should then be subtracted from the A/E's statement for reimbursement of printing costs.

The A/E may require separate payment of a nominal shipping charge where the Contractor requests shipment rather than pickup of bid document sets. Shipping charges are intended to reflect only the cost of packaging and shipping the documents and are not refundable to the plans holders.

SECTION 1010 CONSTRUCTION CONTRACT ADMINISTRATION

1010.1 General:

Generally, the A/E's Basic Services requires the A/E to assist in the solicitation of bids, assist in bid opening, review submittals, inspect the Work, review and certify Contractor payment requests, issue clarifications of the Documents, issue Field Orders, process change orders and perform other functions associated with contract administration.

Agencies that have the resources and capabilities may request authority to administer the Construction Contract. The request will be submitted to the Director, Division of Engineering and Buildings, with the CO-5 or prior to the submission of the CO-6 for the project. The request must document the advantage to the Agency and the Commonwealth of using some entity other than the A/E to administer the Construction Contract and give a synopsis of how the Construction Contract is proposed to be administered.

Alternatively, the Agency may use the RFP process for Non-Professional Services to secure a consultant to perform Project Management and/or Project Inspection services. The selected Project Management / Project Inspection contract must clearly identify the services to be provided by the consultant and the

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limits of its authority. The Project Manager services which relate to the construction may impact the Contractor. Required interface or interaction between the Contractor and the Project Manager must be conveyed to the Contractor in the Special Conditions Section of the specifications. The A/E Contract must be modified to reflect the reduction in the A/E Basic Services.

1010.2 A/E Construction Period Services: The following services, described in the General Conditions of the Construction Contract, CO-7, shall be provided by the A/E of record and shall not be delegated to others unless specifically approved by the Director, DEB:

- Attend preconstruction meeting
- Make design changes required by uncovered hidden conditions
- Interpret plans & specifications
- Where the documents specify or show a means, method, sequence, technique or procedure, determine acceptability of substitute means, methods, sequence, techniques or procedures proposed by the Contractor
- Provide additional details as necessary to clearly describe what is required to be constructed
- Prepare and issue or validate all Field Orders and all Agency directed and/or authorized Change Orders involving any matters or items of technical nature which affect the integrity of the exterior architectural, structural or fire safety systems or which affect the integrity or operation of the mechanical, plumbing, or electrical systems.

Note: Agency directed and/or authorized Change Orders and Field Orders on non-technical matters such as landscaping, finishes, colors, and similar items which do not affect the exterior architectural appearance or the structural, fire safety, mechanical or electrical system integrity could be handled by a qualified licensed professional on the Agency or Consultant's staff if the A/E's contract has been appropriately modified.

- Clarify discrepancies in documents
- Review/approve submittals
- Reject non-conforming submittals including Sprinkler Shop Drawings & Submittals. Furnish approved copies of Sprinkler submittals to the Regional Fire Marshal's Office.
- Verify conformance of submittals with Plans and Specifications
- Approve or reject alternate or substitute materials proposed by Contractor
- Approve or reject equipment and materials proposed by Contractor

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- Resolve conflicts between manufacturer installation instructions vs Plans and Specifications
- Advise on acceptable procedures where installation instructions are not provided
- Approve or reject Contractor's proposed modifications to structural and other building systems
- Advise Owner on technical matters related to the project

The following construction period services shall also be provided by the A/E as part of his periodic site visit Basic Services unless specifically deleted by the A/E Contract or its Memorandum of Understanding:

- Conduct preconstruction meeting
- Confirm in writing, all oral orders given by the A/E to the Contractor and/or Project Inspector
- Transmit Owner's Orders to Contractor
- Review Contractor's CO-12 Schedule of Values, continuation sheets, and approve for acceptable level of breakdown, acceptable allocation of costs, proper listing of 'Unit Price' work shown on the Bid Form, and separate listing of Change Order costs.
- Verify quantities of unit price work and prepare Change Orders as appropriate for quantities actually performed or incorporated in the Work
- Review proposed work plan & schedule
- Review schedule for adequate time to review submittals
- Review/recommend approval of project CPM schedule per Section 19 of the CO-7, General Conditions of the Construction Contract
- Report on Contractor adherence to schedule
- Review/approve progress graph
- Approve Contractor's proposed type of temporary heat as it may affect protection of construction
- Advise Owner on construction matters related to the project
- Make site visits and provide written report
- Determine progress and quality of the Work
- Recommend suspension of Work

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- Inspect/spot check Work for conformance with the Contract Documents and the codes and installation / workmanship standards therein. (e.g. reinforcing clearances and laps per ACI; ductwork conforming to SMACNA; wiring conforming to NEC; etc.)
- Note and report defects and deviations in the Work
- Identify to Project Inspector any specific checks or inspections to be made as the Work progresses including what to look for
- Require defective Work to be removed and redone
- Reject inferior or poor workmanship
- Reject Work which does not conform to Contract Documents requirements
- Require Contractor to make repairs or changes deemed necessary
- With Owner's approval, suspend Work which depends on non-conforming Work until an acceptable correction or replacement is provided by the Contractor
- Approve repair/restoration of damaged work
- Inspect roof and advise when ready for roof survey
- Approve CO-12 and Schedule of Values format and content / breakdown
- Schedule and conduct monthly pay meeting
- Review CO-12 pay request vs. work done & materials stored & certify amount
- Certify monthly pay requests
- Receive Contractor's affidavit of payment of claims
- Review Contractor requests/claims for extension of time
- Review Contractor claims for extras
- Verify Project is ready for substantial completion inspection prior to actual inspection
- Conduct Substantial Completion Inspection and prepare punchlist
- Conduct Final Completion Inspection

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- Complete and sign Certificate of Substantial Completion, CO-13.1a, and Certificate of Completion, CO-13.1
- Prepare Record Drawings

1010.3 Construction Project Management: All Construction Project Management / Contract Administration activities not specifically required above to be performed by the A/E may be performed by the Agency or by the Agency's Project Management / Project Inspection Consultant. The Agency or its consultant may then, among others, review construction schedules, maintain accounts of the work, issue change orders, review applications for payment, issue certificates for payment, provide on-site observation of the work, instruct the Project Inspector, issue the Certificate of Completion and issue the final Certificate of Payment.

If the Owner relieves the A/E of responsibility for issuing Field Orders and/or Change Orders or rejecting Work, the person designated by the Owner to issue the Field Orders or Change Orders or reject the work or have authority to render decisions on the project shall be a Virginia licensed Architect or Professional Engineer who is experienced, knowledgeable and qualified to make the judgment on the matter. For an Agency with "Delegated Review Authority", the person designated as responsible for such reviews shall review and recommend approval or disapproval on all proposed change orders related to technical matters to assure continued conformance to the Code and adherence to requirements. A copy of all Change Orders related to technical matters or conformance to the applicable Codes and standards along with a copy of the justification and the recommendation of the "Delegated Review Authority" shall be forwarded to the Building Official (Director, Division of Engineering and Buildings) for approval as to code compliance.

The Owner may designate an on-site Project Manager to be the Owner's designated representative on the project. In such case, the Project Manager shall be the person through whom the Owner and the A/E generally convey written decisions and notices to the Contractor and receive information and notices from the Contractor. The Owner may also delegate from the Architect/Engineer to the Project Manager certain inspection, verification, acceptance, rejection, and administrative duties and authority. The scope of the Project Manager's authority is limited to that authorized by the Owner. The Owner shall provide the Contractor and the A/E information in writing defining the limits of the Project Manager's authority.

SECTION 1011 PRECONSTRUCTION MEETING

The General Conditions of the Construction Contract (Form CO-7) requires that prior to the start of construction, and no later than 15 calendar days after the Notice to Proceed, a Preconstruction meeting shall be held. Attendees should include the Owner's Project Manager and Project Inspector, the A/E's Representative including representatives of each design discipline involved in the project, Fire Marshal's Office representative, the Contractor's Project Manager and Superintendent (and Scheduler, if Contractor desires), and representatives of the Contractor's major Subcontractors. A Safety Representative from Department of Labor and Industry may also be invited.

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The purpose of the preconstruction meeting is to clarify and discuss the specifics related to, but not limited to, the following:

- (1) Persons involved from each entity and their chain of authority.
- (2) Names, addresses, telephone numbers, fax numbers and procedures/formats to be used for Requests for Information (RFI), Requests for Clarification (RFC), Requests for Proposals (RFP), shop drawing and sample submittals, and notices.
- (3) Contractor's proposed construction schedule and Owner's sequencing requirements, if any.
- (4) Schedule of Values and Certificate for Payment (Form C0-12) requirements and procedures.
- (5) Procedures for shop drawing, product data and samples submittals.
- (6) Procedures for handling Field Orders and Change Order Form C0-11.
- (7) Procedures for Contractor's request for time extension, if any.
- (8) Construction site requirements, procedures and clarifications to include:
 - Manner of conducting the Work
 - Work site specialties such as dust and erosion control, stormwater management, project signs, clean up and housekeeping, temporary facilities, utilities, security, and traffic
 - Safety
 - Layout of the Work
 - Quality control, testing, inspections and notices required
 - Site Visits by the A/E
 - Owner's Project Inspector duties
 - Running Punch List
 - As-Built Drawings
- (9) Monthly Pay Meeting
- (10) Requirement for the Contractor to furnish the Owner a list of hazardous materials that may be brought onto the job site. If additional material, not on the initial list, is to be brought to the job site, the Owner shall be given 48-hour prior notification.
- (11) Project Close-Out requirements and procedures.

SECTION 1012 MONTHLY PAY MEETING

The intention is that the Contractor, the Owner and the A/E have timely exchange of information and cooperate to accomplish the Work as required by the Contract Documents. The Contractor is responsible for managing the Work, obtaining approvals and requesting clarifications on a timely basis. The Owner and its A/E are responsible for making a reasonable effort to provide timely responses to the Contractor.

Section 36 of the General Conditions of the Construction Contract establishes the requirement for a monthly pay meeting which will usually be held at or near the Work site. In addition to Owner, A/E and Contractor representatives, the following representatives, at a minimum, should be available to attend portions of the meeting, as applicable or necessary:

- Owner's Project Inspector
- Contractor's Project Superintendent

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- A/E representative of each discipline where construction work was performed for the current pay request or where work is projected to be performed in the coming month.
- Representatives for each subcontractor who performed work included in the current pay request or who is projected to perform work in the coming month.

The following additional topics should be included, as a minimum, in the monthly pay meeting agenda:

- (1) Observations of status, quality and workmanship of work in progress
- (2) Validation of the Schedule of Values and Certificate for payment
- (3) Conformance with proposed construction schedule
- (4) Outstanding Requests for Information Requests for Clarification and Requests for Proposal
- (5) Submittals with action pending
- (6) Status of pending Change Orders
- (7) Status of Running Punch List items
- (8) Work proposed for coming pay period
- (9) Discussions of any problems or potential problems which need attention

SECTION 1013 OTHER MEETINGS

The A/E and/or the Owner may include requirements for other meetings, such as progress meetings, coordination meetings, pre-installation meetings and/or partnering meetings, in the Contract Documents in the Special Conditions or in Division 1 of the Specifications.

SECTION 1014 ACCESS TO WORK

The General Conditions of the Construction Contract require that the Architect/Engineer, the Owner, the Owner's Project Manager, the Owner's inspectors and other testing personnel, inspectors from the Department of Labor and Industry, and others authorized by the Owner shall have access to work at all times. The Contractor shall provide proper facilities for access and inspection.

SECTION 1015 AUTHORITY OF THE A/E DURING CONSTRUCTION

1015.1 A/E's Authority: Unless the Agency specifically designates an on-site Project Manager to act as the Owner representative, the A/E shall act as the representative, but not the agent, of the Owner during the construction phase. The A/E shall have authority to endeavor to secure the faithful performance by Owner and Contractor of the Work under the Contract to include the following:

- Review the Contractor's submittals for conformance to the requirements of the contract documents and return copies to the Contractor with appropriate notations.
- Interpret the requirements of the drawings and specifications and issue Field Orders to the Contractor as may be required.

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- Recommend to the Owner suspension of the Work (in whole or in part) whenever such suspension may be necessary to ensure the proper execution of the Contract.
- Reject, in writing, Work, including material, installation or workmanship, which does not conform to the requirements of the drawings and specifications.
- Determine the progress and quality of the Work, subject to the right of the Owner to make an overriding decision to the contrary.
- Upon request by the Contractor, the A/E shall confirm, in writing within ten (10) days, any oral order or determination made by the A/E.

1015.2 Changes in the Work: The A/E shall have no authority to approve or order changes in the Work which alter the design concept or which call for an extension of time or a change in the contract price. Where such changes are in order, the A/E shall prepare the appropriate documents for the Owner's approval and issue same to the Contractor.

1015.3 Owner's Decisions: The Owner shall have the right, but not the duty, to countermand any decision of the A/E and to follow or reject the advice of the A/E, including but not limited to acceptance of the Work, as it deems best. In those instances where the A/E has been given authority to act, the A/E shall promptly do so, but in the case of disagreement between A/E and the Owner, the decision of the Owner shall be final.

1015.4 Orders to the Contractor: All orders from the Owner to the Contractor shall normally be transmitted through the A/E but may be communicated directly to the Contractor and the A/E by the Owner. **The Owner must be aware that any order issued directly to the Contractor without first consulting with the A/E may put the Owner at risk.**

1015.5 Construction Methods: The A/E shall not be responsible for construction means, methods, techniques, sequences or procedures (other than those expressly specified in Contract Documents), or for safety precautions and programs in connection with the Work, and the A/E shall not be responsible for the Contractor's failure to carry out the Contractor's own responsibilities.

1015.6 Project Management Consultant: Should the Owner choose to employ a different A/E or a Project Management Consultant to perform any portion of the services listed in Section 1010.2 above, the status, authority and responsibilities of the A/E or Project Management Consultant so employed shall be the same as that of the former A/E with regard to that service.

SECTION 1016.0 SCHEDULE OF VALUES AND CERTIFICATE FOR PAYMENT

The General Conditions of the Construction Contract, G.S. Form E&B CO-7, describe in Sections 20 and 36 the requirements for completing the Schedule of Values and Certificate for Payment, G.S. Form E&B CO-12, and for providing documentation of Work performed and for properly stored materials.

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The A/E, as part of Basic Services is required to review and approve the format and breakdown of the initial Schedule of Values and to review, evaluate, verify, and approve the Contractor's monthly submittal of the CO-12 documentation requesting payment. As previously described in this Chapter, the Owner may delete this service from the A/E Contract and assign the function and responsibility to the designated Project Manager when approved by the Director, Division of Engineering and Buildings.

The procedures and requirements in Sections 20 and 36 of the General Conditions are incorporated herein by reference. The following clarifies and amplifies the specified procedures associated with the CO-12.

- 1016.1** The A/E shall require the Contractor to provide the Schedule of Values totaling the amount of the Contract broken down into a sufficient level of detail (commensurate with the size of the project) to allow the A/E to verify the work completed. Where the total project has multiple floors, parts, or phases, the Contractor shall prepare appropriate schedules of values to facilitate review of and justification for payments. Unless waived by the Director of the Bureau of Capital Outlay Management, the Owner and A/E shall require the Contractor to use the CO-12 spreadsheet template which is available for download from the Bureau of Capital Outlay Management page of the DGS website (<http://www.dgs.state.va.us/deb>).

The Owner shall submit a copy of the initial approved CO-12 to the Director of the Bureau of Capital Outlay Management within sixty (60) days following the award of the construction contract. The Owner shall submit a copy of the final approved CO-12 to the Director of the Bureau of Capital Outlay Management at project closeout. Unless its use was waived by the Director of the Bureau of Capital Outlay Management, the Owner shall submit these copies in the electronic format described in the preceding paragraph. The electronic copies of the CO-12 spreadsheets may be submitted on diskette, or as an e-mail attachment.

- 1016.2** If the Contractor requests, or intends to request, payment for materials stored in an approved and secure manner, the Schedule of Values must indicate the amount for labor and the amount for materials, and in a supplement thereto must include an itemized list of materials for that trade or work section. The material breakdown shall be in sufficient detail to allow verification of the quantities required for the project, the quantities delivered, the Work completed, and the quantities stored on or off the site. See Appendix C for sample formats and Supplemental Agreements for off-site stored materials away from the general location of the Project.
- 1016.3** All requests for payment must use page 1 of the Schedule of Values and Certificate for Payment (Form CO-12), and page 1 shall be completed, signed and submitted by the Contractor with each payment request. If the requirement to use the Bureau of Capital Outlay Management's CO-12 spreadsheet template was waived, the succeeding pages of the Schedule of Values may be prepared using alternate computer programs, provided the data is reported in the same format and contains the same information.
- 1016.4** The "Value of Work Completed" portion of the Form CO-12 shall be completed, the Contractor's certification completed and signed and the appropriate substantiating material attached to each request for payment.
- 1016.5** The labor progress for any item may be calculated based upon the estimated percentage of Work complete up through 50 percent. Thereafter, the evaluation of labor progress shall be based upon the effort required to complete that item or task. The material progress shall be calculated as the

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dollar cost of materials used in relationship to the amount estimated as necessary to complete a particular element of Work. When calculating material progress, credit shall be given for installed material as well as that stored on the site and any material stored off site which has been certified by the A/E in accordance with Section 36 of these General Conditions.

- 1016.6** The CO-12, Schedule of Values and Certificate for Payment, shall be completed, signed and submitted by the Contractor with each payment request.
- 1016.7** Based on the periodic observations at the site and on the Contractor's Schedule of Values and Certificate for Payment (CO-12), the A/E shall determine the amount owed the Contractor, shall mark the application as necessary, and shall issue the Certificate for Payment to the Owner with recommended amounts for payment shown. Where the amount recommended for payment differs from the amount requested on the Contractor's Application, a copy of the marked Schedule of Values and Certificate of Payment shall be furnished to the Contractor. The issuance of a Certificate of Payment shall constitute a representation by the Architect/Engineer to the Owner that the Contractor is entitled to payment in the amount indicated. By issuing a Certificate of Payment (E&B CO-12), the A/E shall not be responsible for making any examination to ascertain how and for what purpose the Contractor has used the monies paid on account of the contract sum.

SECTION 1017.0 INSPECTION OF WORK

The General Conditions of the Construction Contract, G.S. Form E&B CO-7, describes in Section 16 the requirements, responsibilities and authorities for inspection of the construction Work and for correction of deficiencies and/or defects found. The A/E as part of Basic Services is required to visit the site, observe the Work in place, observe the Work in progress and evaluate the Contractor's conformance to the requirements of the Contract Documents. As previously described in this Chapter, the Owner may delete this service from the A/E Contract and assign the function and responsibility to the designated Project Manager when approved by the Director, Division of Engineering and Buildings.

The procedures and requirements in Section 16 of the General Conditions are incorporated herein by reference. The following clarifies and amplifies the specified procedures associated with the inspection of the Work.

- 1017.1 Inspection by A/E:** A representative of the A/E firm or the Agency's professional/technical staff when design is accomplished in-house) shall be available to answer questions from the Project Inspector or in-house craftsmen and shall make visits as necessary to clarify plans and specifications.

Appropriate representatives of the A/E or Agency professional technical staff shall visit the site at least twice each month to observe the progress and quality of work, to determine if the work is proceeding in accordance with the Contract documents and to review the Contractor's Application for Payment (E&B Form CO-12). A qualified person in each design discipline of the project which had work performed during the pay period being verified or which will have work to perform during the upcoming pay period shall attend the monthly pay meeting. The Memorandum of Understanding shall indicate the minimum number and/or frequency of site visits by the A/E.

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The A/E shall provide to the Owner and the Contractor after each visit to the site, a written report indicating the date, time of day, weather conditions and the names of the persons representing the A/E who participated in the visit. The A/E shall inspect / spot check Work for compliance with the Contract Documents and the codes / installation / workmanship standards therein. Identify to the Project Inspector any specific checks or inspections to be made as he inspects the Work as it progresses. The report shall advise the Owner of any problems that were noted and shall compare the A/E's observations of the actual progress of the Work with that reported by the Contractor. On the basis of his on-site observations, the A/E shall make every reasonable effort to guard the Owner against defects and deficiencies in the Work of the Contractor. He shall have the authority to inspect the Work, to note and report defective Work and deviations from the Contract Documents to the Owner, to reject same, and to recommend to the Owner the suspension of the Work when necessary to prevent defective Work from proceeding or being covered. **It is essential that the A/E and the Project Inspector work together, observe and inspect the Work, and regularly communicate to assure that work being performed conforms to the Contract Documents.**

1017.2 Owner's Project Inspector / Clerk of the Works: Except as provided in Section 1017.2.1, the Owner shall designate a specific individual to serve as inspector on every project whenever work on the project is in progress. Waiver of this requirement must be approved by the Director of BCOM. The name of the inspector shall be shown on the Form CO-8. Where completion of a Form CO-8 is not required, the name of the project inspector will be entered in the project file on a locally developed form. The Project Inspector shall be knowledgeable of and have reasonably convenient access to the codes and standards referenced in the Contract Documents which stipulate the requirements for installation and workmanship on the trades involved in the Work. (e.g. ACI, SMACNA, NFIPA, NEC, BOCA, ASHRAE, etc.) Persons designated to inspect work regulated by the USBC must be licensed Architects or Professional Engineers, persons certified in their respective areas of competence by DHCD, persons certified in their respective trade by DPOR or persons otherwise approved by the Chief Facilities Officer as having the necessary knowledge and competence by education and experience to inspect the assigned work. (See CPSM Section 701.13.2).

1017.2.1 For small or simple trade contract projects, a Building and Grounds employee or a member of the administrative staff may serve as the Project Inspector. The agency, at its discretion, may designate an inspector for projects accomplished using in-house forces. The duties of the inspector will be consistent with the size and complexity of the job and similar to those listed in the following paragraphs.

1017.2.2 The firm, individual or Agency staff providing these inspection services (hereinafter called the Inspector) shall furnish all labor, materials, and resources for full-time Project Inspector/Clerk of the Works services during the construction of the project. The Inspector shall be a duly authorized and qualified person who shall be available during the entire time Work is in progress on the site.

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On new construction and larger renovation projects, the Inspector should be provided with a separate jobsite office or trailer containing approximately 120 square feet, light, HVAC, a desk, a 36" x 72" work table, chair, plan rack, and telephone line. If the contractor is to provide this office/trailer, have the A/E include this requirement in the Special Conditions of the Specifications. Depending on the project, the Inspector should provide, or have access to, other office furnishings and/or equipment such as fax machine, camera, computer, copier, etc., necessary for performing these services.

The A/E shall provide the Project Inspector with a copy of all approved shop drawings, submittals, samples, schedules, change orders, clarifications, supplemental information, and other pertinent correspondence and material for the Inspectors use at the jobsite.

1017.2.3. The duties and functions of the Project Inspector including those listed in Chapter 7, Section 707B, of the **Manual**, and in Section 16 of the General Conditions of the Construction Contract, G.S. Form E&B CO-7, are described, generally, below. A detailed list of duties along with sample formats for recording required information are included in Appendix N.

1. Inspections/Quality Control

- a. Inspect all construction materials, equipment, and supplies for compliance with the contract documents and/or approved shop drawings and submittals.
- b. Inspect installations and workmanship for compliance with the standards described in the plans and specifications (e.g. ACI, NEC, ASME, SMACNA, NFIPA, BOCA, etc.). Verify compliance prior to cover or close-in of Work.
- c. Observe and report on all tests performed by the Contractor.
- d. Report presence of & activities performed by Owner's testing/inspection agents.
- e. Report to the A/E and the Owner when, in his judgment, the Work being performed does not conform to the requirements of the Contract Documents or safety requirements are not being followed and, if appropriate, recommend suspension of the Work.

2. Records and Reports

- a. Keep a record or records, including a daily log of construction activity, roofing activities, tests, inspections, and reports. Use photographs and annotated drawings to show the progress of, and changes in, the project during its construction. Keep records of site visits by the A/E's representatives, Owner's testing agents, and other visitors. Maintain a copy of these records at the site.
- b. Submit a weekly summary report in an approved format to the Owner and A/E.
- c. Immediately report all discrepancies in the Contractor's work to the A/E and the Owner. Also report any discrepancies noted in plans and specifications to the A/E for clarification

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or resolution. The Project Inspector shall not interpret or change the requirements of the plans and specifications.

3. Meetings

- a. Attend all joint jobsite construction meetings and inspections held by the Owner and/or the A/E with the Contractor.
- b. Review and maintain a copy of all meeting minutes and inspection reports.

4. Shop Drawings, Submittals and Samples

- a. Record and maintain a copy for reference of all approved shop drawings, submittals, samples and installation instructions.
- b. Check material/equipment delivered for conformance with approved submittals.
- c. Check installations versus shop drawing and installation instructions.

5. Schedules and Payment Requests

- a. Assist the A/E in review and verification of the CO-12, Schedule of Values & Certificate for Payment, submitted by the Contractor each month.
- b. Maintain a record of construction progress by marking / annotating a copy of the project schedule to show pertinent information on actual start, stop and completion dates of the various activities. Compare work progress to Contractor's schedule and advise the Owner and A/E when progress deviates from schedule.

6. Project Closeout

- a. Advise Owner and A/E if a portion or all of the project is ready for a Substantial or Final Inspection when such inspection is requested by the Contractor.
- b. Receive copies of **Manuals**, documents, etc. from Contractor for delivery to Owner.
- c. Assist Owner in coordinating training session for equipment.

1017.2.4 The Project Inspector has no authority to and shall not:

- 1. Authorize deviations from the Contract Documents;
- 2. Enter into area of responsibility of the Contractor's superintendent;
- 3. Issue directions regarding construction means, methods, techniques, sequences or

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procedures, or safety precautions and programs in connection with the Work;

4. Authorize or suggest that the Owner occupy the project in whole or in part;
5. Issue a certificate for payment.
6. Stop the Work.

1017.2.5 Supervisor: The Inspector shall report to the Owner's designated representative.

1017.3 “Commissioning” Inspection of HVAC Systems: The Project Inspector shall observe the Contractor's prefunctional performance testing including, but not limited to, pressure tests, flushing, cleaning, testing, balancing, adjusting and start-up of equipment and the testing of automatic controls and report his observations to the A/E. The A/E shall schedule his periodic inspections of the HVAC systems to be present for such testing, balancing, adjusting and start-up of HVAC equipment and the testing of automatic controls to assure that these systems function properly.

Some sophisticated HVAC systems for facilities such as laboratories, medical science facilities, and archival storage facilities have minimal tolerances for deviations in temperature, humidity and/or air changes and, therefore, may require special commissioning or test/inspection services to assure the precise conditions required. The Owner may secure these services from the A/E as additional services or as extra services or the services may be procured from an independent testing / commissioning agent depending on the services required and the capabilities of the possible vendors / consultants. These additional commissioning services may include, but are not limited to:

- Calibrate every instrument (sensor, switch, controller, etc.) in the system. (Note that Basic Service commissioning will utilize factory calibration.)
- Test three points for each analog instrument for linearity and accuracy.
- Calibrate all flow transmitters for 0%-100% of flow values with 3 point calibration along its span.
- Calibrate all pressure transmitters at three points along its span.
- Calibrate all temperature sensors and include any offsets required.
- Operate all control valves and dampers throughout their entire range. Verify that each actuator will close/open with specified air pressure.

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- 1017.4 Other Inspectors:** All other inspectors and testing personnel called for in the specifications as well as inspectors from the Department of Labor and Industry shall be provided access to the project as their duties require. The Agency shall procure the services of independent laboratories or firms to provide the Owner's inspection and testing services for foundations, steel frame connections, concrete testing, fireproofing and standard compaction control.
- 1017.5 Fire Marshal Inspections:** The Regional Office of the State Fire Marshal's office shall be responsible for the Fire Marshal inspection of new and renovated state building construction in accordance with the agreement between the Department of General Services and the Department of Housing and Community Development.
- 1017.6 Hazardous Materials:** Prior to the start of construction, the Contractor shall furnish the Owner a list of hazardous materials that may be brought onto the job site. If additional material, not on the initial list, is to be brought to the job site, the Owner shall be given 48-hour prior notification. When requested by the Owner, the Contractor shall furnish the Owner with material safety data sheets for any materials to be brought onto the job site.

SECTION 1018.0 DOCUMENTATION OF "AS BUILT" CONDITIONS

The Contractor shall be required at all times to maintain one record set of drawings and specifications in the Superintendent's office at the project site. This set of documents shall be designated the "As Built" documents and shall be used to record any changes or deviations from the original documents. The A/E shall review this set when he visits the site, and prior to approving the monthly pay request, to assure that the Contractor is making the notations as required. The "As Built" set of documents shall be furnished to the A/E at the completion of the project as a reference for preparing the final "Record" documents.

SECTION 1019.0 CONSTRUCTION CHANGE ORDERS

- 1019.1** Construction change orders may be necessary during the course of construction. No change order shall be issued, regardless of cost, that increases the approved scope of the project as shown on the approved CO-2 or as set forth in the Capital Project Request or Preplanning Study without prior approval of the Director of the Department of General Services. Change orders are most commonly necessitated by unforeseen site or building conditions; errors or omissions in the contract documents; an opportunity to reduce the operating cost of the facility under construction; technology changes occurring since contract award which must be incorporated in the project; or a change in the Agency requirement. All changes involving the contract price, whether decrease or increase or performance time shall be documented in an approved contract change order (E&B CO-11 and CO-11a) to the construction contract. See Chapter 14 for Capital Projects and Chapter 15 for Non-Capital Project Change Order instructions
- 1019.2** The Owner may authorize changes in the construction contract. However, in accordance with §2.2-4309, *Code of Virginia*, Change Orders involving an increase in contract price of more than **25% or \$50,000, whichever is greater**, shall have the prior written approval of the Governor or his designee. When a single change order or when the cumulative total of change orders exceeds

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the original contract amount by more than 25%, that change order and any subsequent change order that increases the contract amount shall have the prior approval of the Governor or his designee. Submit the Form E&B CO-11 and CO-11a to BCOM for approval of the contract change with supporting documentation outlined above.

1019.3 The Agency justification section of the CO-11a on all change orders shall:

1. Include a written statement by the Agency outlining the proposed cost sharing by the responsible design professional when the change results from an error or omission.
2. Or, answer the following questions when the change is generated by a change in the Agency requirement:
 - (a) When was the change in Agency requirement known?
 - (b) If before bidding, why were the changes excluded from the bid package?
 - (c) Why can the Work not be packaged and bid separately?
 - (d) What quantitative impact will the lack of this change have on Agency service delivery?

1019.4 An information copy of all CO-11 and CO-11a forms approved locally shall be sent to BCOM (without the cost back-up documentation) when the approved change order is issued to the Contractor.

1019.5 The total cumulative amount for all change orders for a single contract shall not exceed the construction contingency provided on the approved CO-8. The Agency may request approval through BCOM to DEB, DGS and DPB to infuse additional funds or to transfer funds to the contingency line item from another line item of the Total Project Budget or another Appropriation. Such a request shall be submitted on a revised CO-2 and a revised CO-8 with appropriate written justification for an increase in construction contingency.

SECTION 1020.0 INSPECTION FOR SUBSTANTIAL COMPLETION

When the Contractor determines that the work, or a designated phase or portion thereof, will be substantially complete and ready for testing and inspection, he shall complete and send Form CO-13.2a with a list of the Work he knows to be unfinished or defective to the A/E at least ten (10) days prior to the date he has set for substantial completion. The A/E will forward the CO-13.2a to the Owner and attach a written endorsement, based on his periodic inspections, as to whether or not he concurs that the project, or phase, should be substantially complete on the date set by the Contractor. The A/E will then coordinate and arrange a date on or shortly after the date set by the Contractor for the Substantial Completion inspection to be conducted. See definition of Substantial Completion.

Participants in the substantial completion inspection shall include representatives of the General Contractor, including those of the mechanical, electrical, and major equipment subcontractors, the A/E, the Owner, the Director of the Division of Engineering and Buildings or his designee and the State Fire Marshal's office. The

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A/E shall conduct and document the inspection and compile a written list of the Work or deficiencies noted (punch list) which need to be completed or corrected.

If the A/E, the Fire Marshal's representative and the Division of Engineering and Buildings representatives agree that this project, or this portion of the project being inspected, is substantially complete in accordance with the contract documents, the A/E shall execute the appropriate Certificate of Partial or Substantial Completion (CO-13.1a), and submit them to the Owner. Attach copies of the punch list, the Contractor's CO-13.2a, the Application for Certificate of Use and Occupancy CO-13.3a, and other documents as appropriate. The Owner may forward this material to the DEB Director and request that a Certificate of Occupancy be issued, or the Owner may wait to request the Certificate of Use and Occupancy when final completion is achieved. If one or more re-inspections of the Work that the Contractor declared to be Substantially Complete are required because the Work was not substantially complete as stated, the Contractor shall reimburse the Owner for the costs of the re-inspections. Do not accept the project as Substantially Complete unless it (the part or whole) is ready for occupancy.

SECTION 1021.0 BENEFICIAL OCCUPANCY

Once the Owner, the A/E, the Contractor and the State Fire Marshal's representative agree in writing that the facility, or a usable portion thereof, is substantially complete and ready for occupancy, the Owner may submit a CO-13.3a, Application for Certificate of Occupancy, and a CO-13.3b, Checklist for Beneficial Occupancy, along with copies of the CO-13.1a, CO-13.1b (if applicable), CO-13.2a, Fire Marshal's acceptance report and other required operations permits to the DEB Director.

The Director of the Division of Engineering and Buildings when satisfied that the project and/or portion of the project is in fact substantially complete in accordance with the contract documents, may issue written authorization (CO-13.3) to the Owner to occupy the project, or applicable portion thereof, subject to any conditions or stipulations stated.

The Owner shall not occupy the facility until the certification from the State Fire Marshal that the project complies with the fire safety requirements and applicable codes and the Certificate of Use and Occupancy (CO-13.3) issued by the Director, Division of Engineering and Buildings are received. **Occupancy of the facility without approval is unlawful and is a misdemeanor under § 36-106, Code of Virginia, as amended.**

The following material is required for consideration of a request for a Temporary or Partial Certificate of Use and Occupancy:

1. Floor plans (small scale) that show areas requested for occupancy and the exits/egress routes;
2. Type of Occupancy requested - e.g. move furniture in for staff, set up/prepare for students, etc.;
3. CO-13.1a with punchlist from A/E;
4. CO-13.2a with any attachment from Contractor;
5. CO-13.3b Checklist for Beneficial Occupancy;

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6. Fire Marshal's report and recommendation;
7. Document stating that the Asbestos Abatement, if any, is complete;
8. CO-13.3a Application For Certificate of Occupancy with data on entire project and separate sheet showing data on area requested to be occupied;

The Owner may take Beneficial Occupancy of a portion or unit of the project before completion of the entire project **only with the prior written approval of the DEB Director, the State Building Official.**

SECTION 1022.0 FINAL COMPLETION INSPECTION

When the Contractor determines that the items listed in the "punch list" have been completed and that the Work is complete and ready for final testing and inspection, he shall complete Form CO-13.2 and send it to the A/E at least five (5) days prior to the date the Contractor has set for the Work to be ready for Final Inspection. The A/E will forward the CO-13.2 to the Owner and attach a written endorsement, based on his periodic inspections, as to whether or not he concurs with the date set by the Contractor.

The A/E shall receive the Certificate of Completion (CO-13.2), the Affidavit of Payment of Claims (CO-13), written guarantees, equipment and operating **Manuals** and related documents assembled by the Contractor, review same and turn them over to the Owner at the final inspection. The A/E shall record any items noted for completion or correction. He shall promptly follow up on the items and notify the Owner, in writing, when they are completed.

The A/E shall conduct the final inspection. A representative of the State Fire Marshal's office either will be present at the inspection or otherwise inspect the completed work and advise the Owner whether the work meets the fire safety requirements of the applicable building code. The Owner may have other persons participate in the inspection. If one or more re-inspections are required because the Work purported to be complete is not complete, the Contractor shall reimburse the Owner for all re-inspection costs.

If the A/E and the Fire Marshal's representative agree that the building is complete in accordance with the contract documents, and safe to occupy, the A/E shall execute the "Certificate of Completion by the Architect/Engineer" (CO-13.1) and deliver it, along with the Record Drawings and all other required material, to the Owner for final acceptance of the project.

SECTION 1023.0 PROJECT CLOSE-OUT

The A/E shall file with the Owner and the Owner with the Division of Engineering and Buildings, the Certificate of Completion by A/E, G.S. Form E&B CO-13.1. The Architect/Engineer shall not be required to file this Certificate of Completion before he, in his professional opinion, believes all construction requirements have been met.

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SECTION 1024.0 RECORD DRAWINGS AND SPECIFICATIONS

- 1024.1. General:** The A/E shall prepare “**Record Drawings**” showing the “**As Built**” conditions, locations and dimensions based on the Contractor’s As Built set of drawings and specifications, and other data furnished by the Contractor to the Architect / Engineer. The Record Drawings shall include actual location of piping and utilities as well as all other changes specifically known to the Architect / Engineer. These Record Drawings shall also include the depths of pilings or caissons if pilings or caissons were in the construction.
- 1024.2. Manually Prepared Drawings:** Where the drawings were prepared by manual drafting on mylar, the original mylars shall be modified to show the “As Built” conditions, dimensions, locations, etc. and appropriate notations made on the mylars. Sections, details and/or sketches produced as part of addenda and those prepared during construction to clarify the documents or for Change Order work shall be transferred to and composed on additional drawing sheets for inclusion in the Record Drawing set. Once completed, the drawings shall be stamped “**Record Drawings**”. The Record Drawings are then ready for microfilming and/or delivery to the Owner. Providing the Record mylars or drawings and specifications is a Basic Service of the A/E.
- 1024.3. CADD Drawings:** Where the drawings were prepared by CADD drafting on paper or vellum, the original sealed masters shall be delivered to the Owner as described in Section 1025. below. The CADD information shall be modified to show the “As Built” conditions, dimensions, locations, etc. and appropriately noted. Sections, details and/or sketches produced as part of addenda and those prepared during construction to clarify the documents or for Change Order work shall be transferred to and composed on additional drawing sheets for inclusion in the Record Drawing set. Once the CADD data is completed, the drawings shall be printed (on a transparent medium suitable for use as a master for obtaining a mylar sepia) and stamped “**Record Drawings**”. The Record Drawings are then ready for microfilming and/or delivery to the Owner. Providing the original masters of the bid documents and the original Record Drawings is a basic service.
- 1024.4. A/E Seals on Record Drawings:** The Department of Professional and Occupational Registration (DPOR) establishes requirements for work which require a professional seal, and promulgates standards for applying such seal. The Building Official (Director , Division of Engineering and Buildings) has the authority to require the seal on work which may be below the threshold set by DPOR. The Director , Division of Engineering and Buildings, is given the authority under statute to establish standards and criteria as they apply to state projects. These requirements are stated in the “Construction & Professional Services Manual for A/E’s” which is included by reference in the A/E’s contract with the Owner.

Commonwealth of Virginia Record Retention requirements state that the plans (sealed), specifications (sealed) and other documents which comprise the construction contract be maintained as part of the permanent records for the life of the building. The professional seal, signature and date indicate the person, or persons, responsible for the design shown on the

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plans and specifications which are submitted for Building Permit. Changes to the Work during construction are not specifically addressed, although the CPSM and the Building Permit do not allow changes which impact on Code compliance without input from the A/E.

The ‘As Built’ or ‘Record Drawings’ are required to be a part of the permanent records for the building. Record Drawings document the actual construction of the project to include approximate locations of utilities, minor deviations in locations or dimensions, and Work included in (or deleted from) the project by Change Order. The A/E’s review and approval of Contractor submittals, inspections of the work, review during site visits of the Contractor’s ‘As Builts’, reviews and acceptance of inspection and test reports, and the A/E’s participation in the scoping and approvals of Change Order work provides the A/E with the background to prepare the ‘Record Drawings’. The revisions to the plans to reflect the as built conditions are usually identified in some manner to indicate an ‘as built’ condition as opposed to the original contract documents, and the ‘revision block’ on the drawing is usually noted ‘as built’ and dated.

Where the CADD process is used to provide the ‘Record Drawings’ in lieu of the old method of actually modifying the original documents, the CPSM requires that a professional seal be applied (signed and dated) on the ‘Record Drawings’ to demonstrate to the Owner / Commonwealth that the above described information has been properly applied / plotted on the drawings. This is a contractual requirement with the Owner, and is not dependent on the minimum requirements of DPOR.

1024.5. Document Retention Requirements: The Owner / Agency is responsible for assembling, maintaining and retaining the Record / As Built construction documents for all building constructed on state owned property to include documentation of all renovations, remodels and additions. See the Records Retention Policy summary in Appendix R of the Manual. These documents may be in paper form, Mylar, or microfilm. Electronic copies of these document on CD have not yet been approved by the Library of Virginia Archivist as being a suitable storage medium.

The Record Documents include the Record Drawings of the As-Built Plans, Specifications, Maps and other pertinent documents. These documents shall be retained until the Building is removed from the state inventory. At that time the Agency shall contact the State Archivist at the LVA to determine the disposition of the documents.

1024.6. Microfilm Specifications: If the Agency chooses to maintain the Record / As Built documents by microfilming, the 35mm microfilm shall conform to the following:

1. Microfilmed Record drawings and specifications shall be made from the corrected original tracings and specifications. Drawings and specifications shall be stamped Record Drawings before filming. Also, sections of the specifications that have been changed by an addendum shall be clearly cross-referenced to the proper addendum before filming.

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2. The film shall be silver halide type. Diazo vesicular and dry-processed silver are not acceptable.
3. The microfilm shall be of archival quality meeting the Standards for the Microfilming of Public Records for Archival Retention, established by the State Library Board of Virginia, June 27, 1977.
4. The film shall be made using a reduction ratio that most nearly fills the frame with the picture.
5. Do not exceed reduction ratio of 30X. If the original is too large to be included in a 30X reduction ratio, film in sections with 4" overlap.
6. Film the specifications with 8 sheets per frame (two rows of four).
7. Film only the first page of the Commonwealth of Virginia's General Conditions.
8. Attach to each jacket a list of the drawings and/or specifications sheets contained therein and the reduction ratio used when filming.

1024.7. Diskette or CD-ROM copies of CADD Drawings: If the plans were required to be prepared on CADD, the A/E shall update those plans to reflect the As Built conditions and provide one copy of the CADD documents on Compact Disk to the Owner.

SECTION 1025.0 OWNERSHIP OF DOCUMENTS

Original drawings and specifications as prepared by the A/E for the project shall be the property of the Commonwealth of Virginia, whether the work for which they are made is executed or not. The A/E shall provide to the Owner at the completion of the job, the original drawing tracings and original copy of the specifications at the time the Record documents are provided to the Owner.

SECTION 1026.0 MAINTENANCE AND OPERATING MANUALS

A specific set of operating and maintenance instructions written for the specific project shall be provided to the Agency at the final inspection. This shall consist of a compiled document prepared by the A/E team for the project and generally include the operation and control sequencing narrative, the control diagrams, an equipment chart indicating periodic maintenance requirements, and the operation and maintenance manuals for the equipment. All systems needing regular maintenance and/or requiring adjustments must be covered. The schedule for required minor and major maintenance must be included. Relevant design criteria and assumptions needed to understand the operation of the systems will be furnished in narrative form including the control systems settings and concept of operation. manuals which provide the data by reference to drawings and specifications and manufacturers are not acceptable. The document, along with the Record drawings and specifications, shall be provided to the head of the Buildings and Grounds operation of the Agency at the time of final acceptance of the project.

SECTION 1027.0 GUARANTEE PERIOD INSPECTION

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Prior to the expiration date of the Contractor's one-year guarantee period, but not before 9 months of this period has elapsed, the Owner shall make an inspection of the building, equipment, and/or any other work included in the original Contract to determine whether any defects in materials or workmanship have developed. The Owner shall provide the Contractor with written notice of such defects and shall notify the A/E for advice in the correction of the defects.

SECTION 1028.0 START-UP/ACCEPTANCE OF MECHANICAL AND ELECTRICAL SYSTEMS

It shall be the A/E's responsibility to verify that the Contractor has all systems functioning properly per design intent; that equipment has been received per Shop Drawings previously approved by the A/E; that all system components have been adjusted and a record made of final settings; and that manual and automatic operating modes have been established for full load ranges prior to notifying the Owner that the system is ready for final start-up and acceptance testing.

It is the intent that when the startup inspection team is called together to conduct final inspections and acceptance test that the work be started as scheduled and completed without exceptional delay.

Major or time consuming adjustments or modifications during final inspection shall be avoided. Final inspections requested when the systems are obviously not ready for such testing and inspections may result in a back-charge to the A/E or Contractor for the costs of inspection team visits and related costs. Applicable portions of the above requirements shall be included in the project specifications.